

FIG. 1

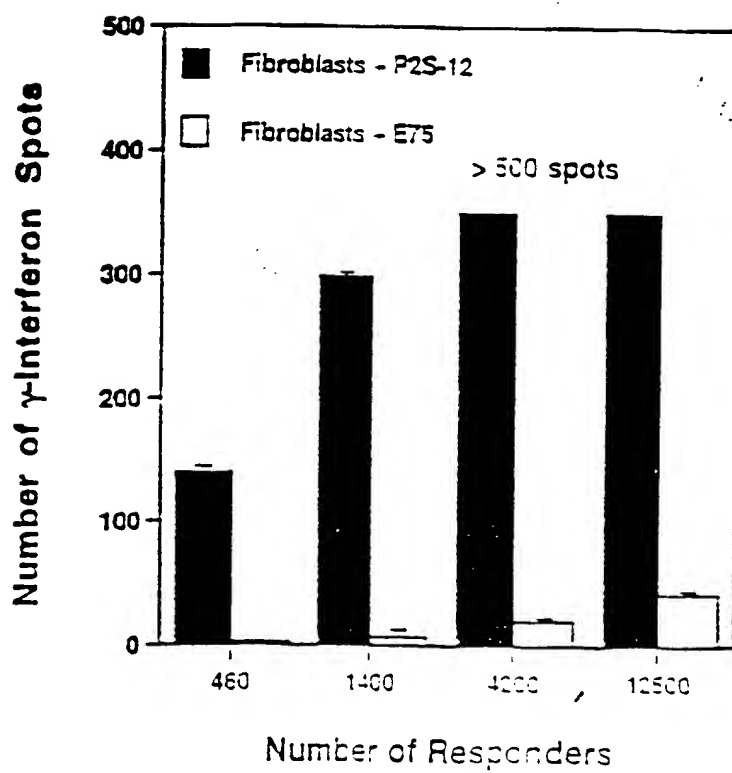


FIG. 2.4

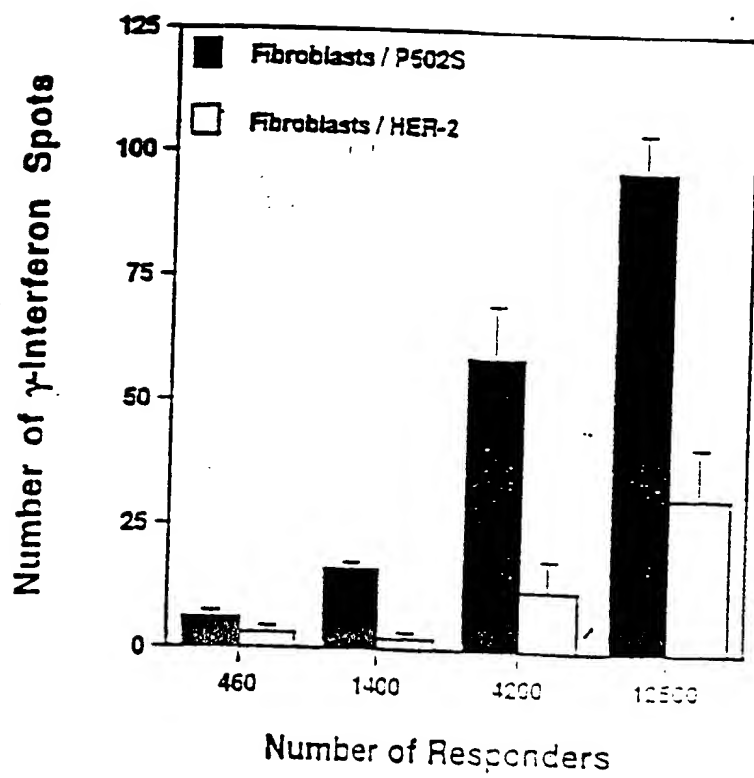
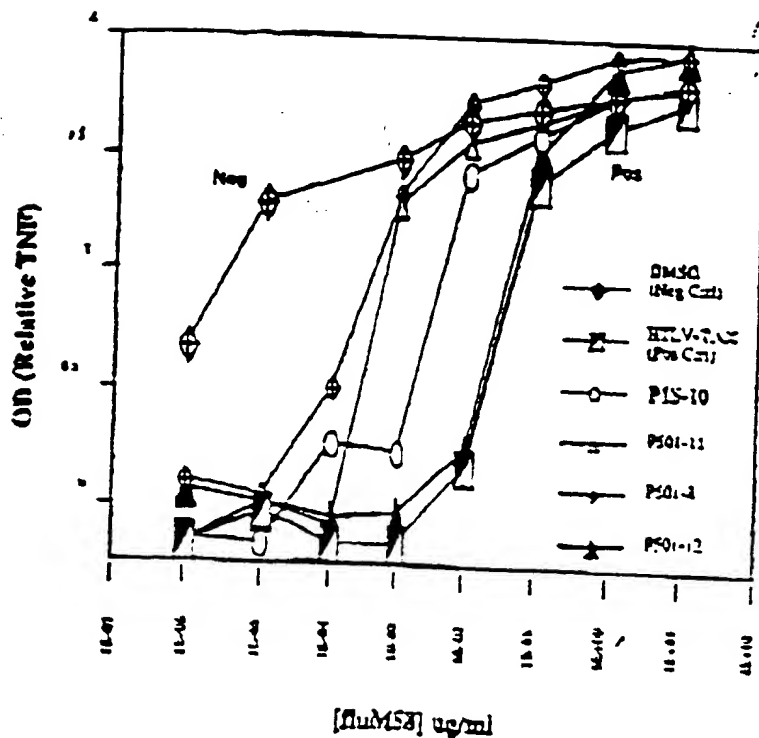


FIG. 2B

002250-66250360



Figure

3

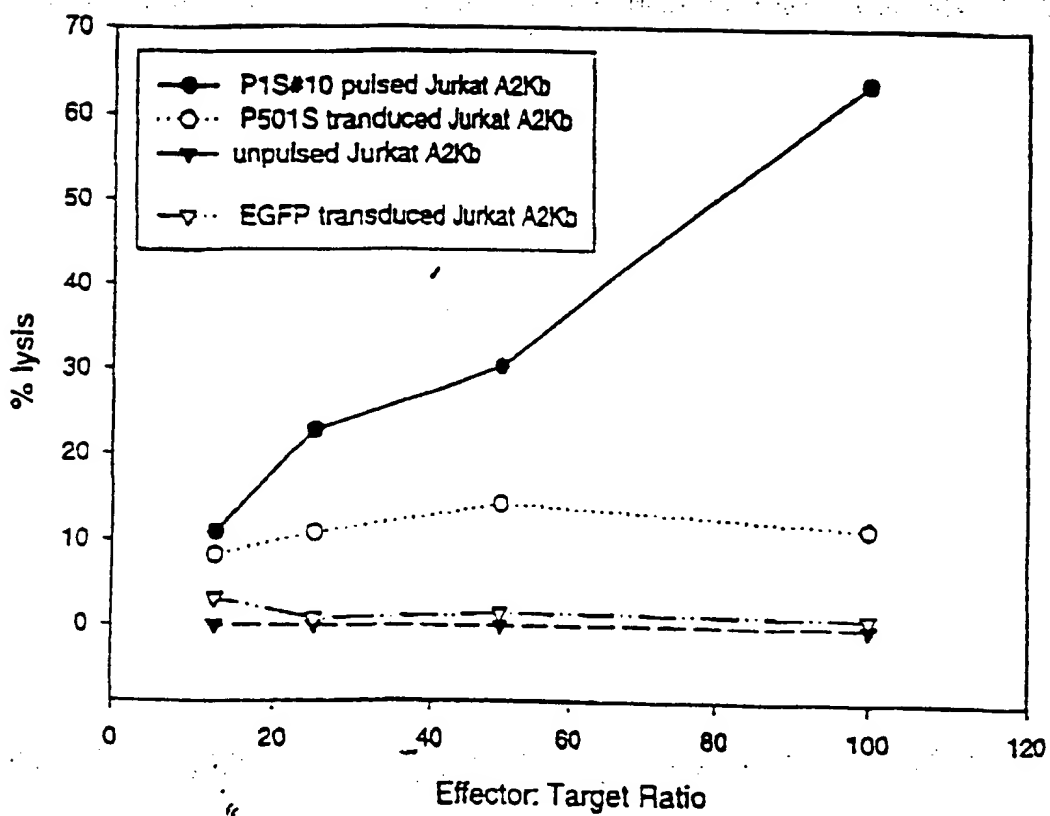


Figure 4

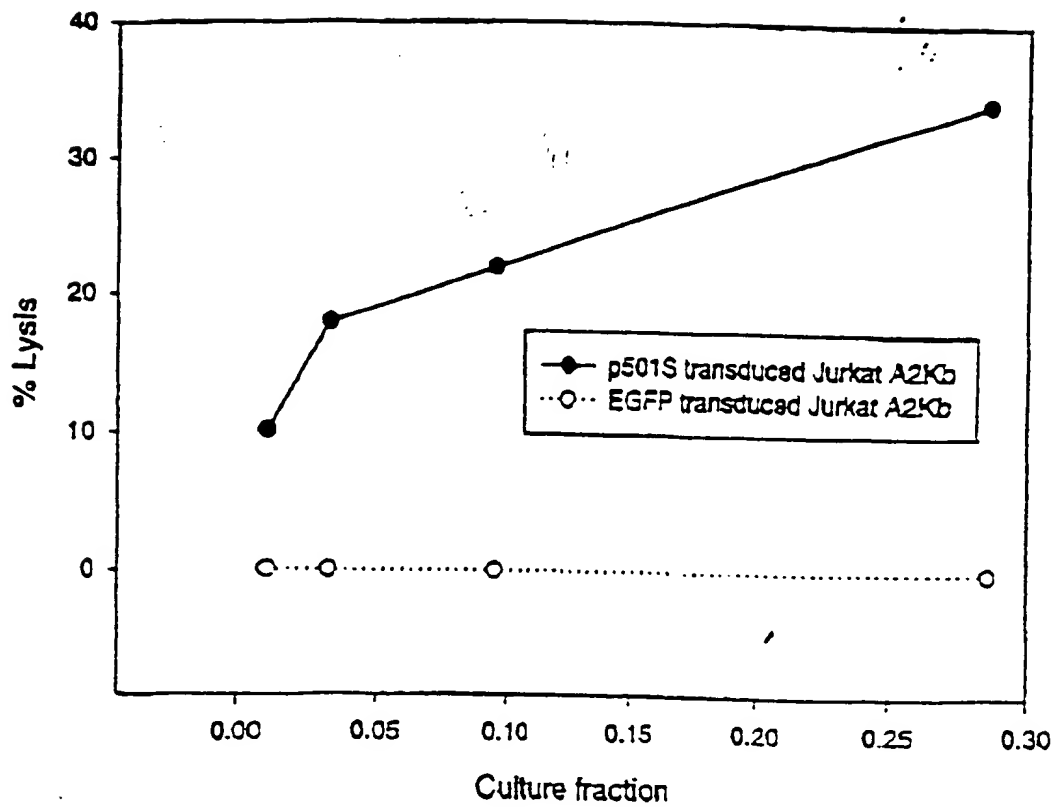


Figure 5

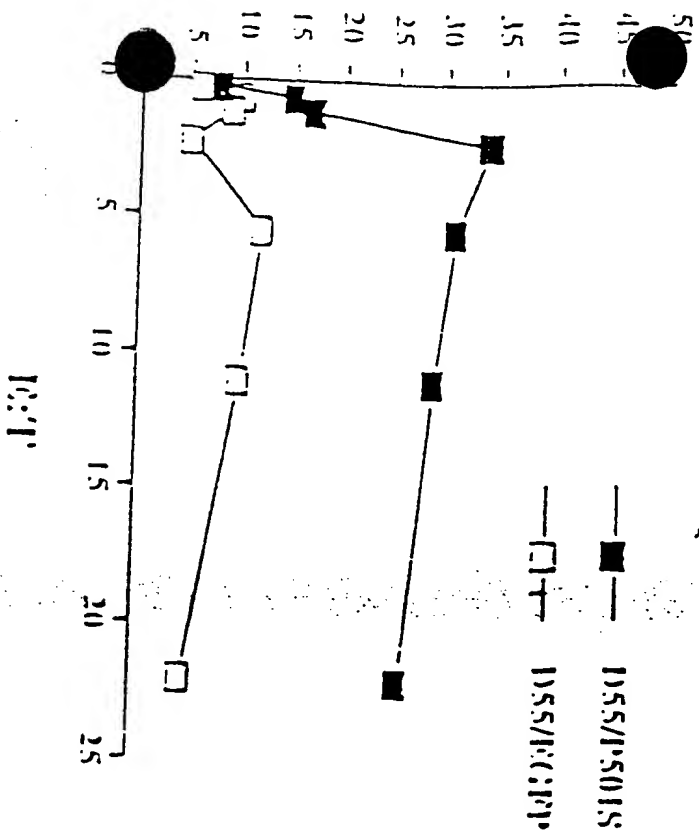


Fig. 6A

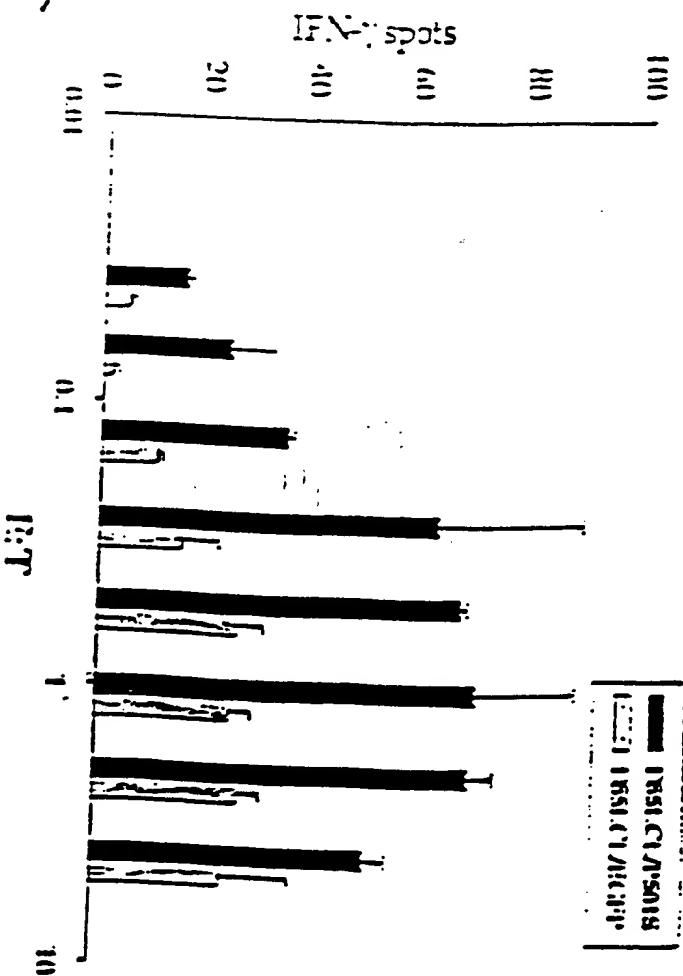
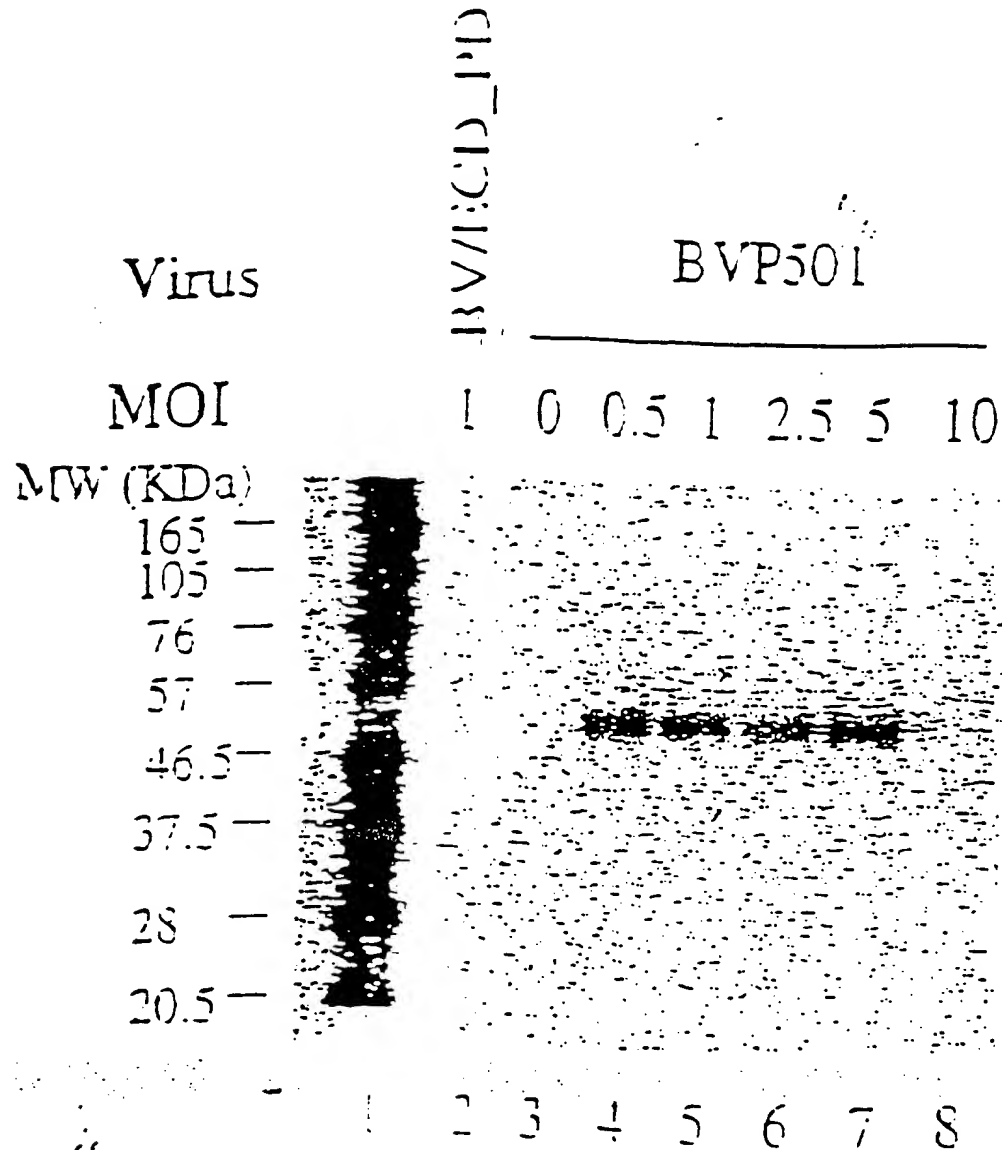


Fig. 6B

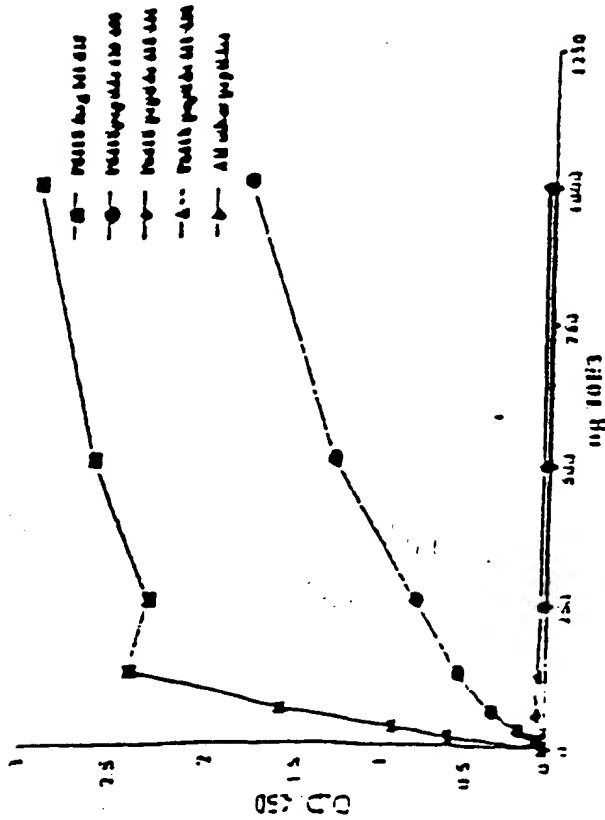
Expression of P501S by the Baculovirus Expression System



0.5 million high titer cells in 6-well plate were infected with an unrelated control virus BV/ECID_P501 (lane 2) or without virus (lane 3) or with recombinant baculovirus for P501 at different MOIs (lane 4-8). Cell lysates were run on SDS-PAGE under the reducing condition and analyzed by Western blot with a monoclonal antibody against P501S (BES-6-20). Lane 1 is the biotinylated protein molecular weight marker (kDa).

Fig. 7

Figure 8. Mapping of the epitope recognized by 10E3-C4-D3



Legend:
Full length PS01S
PS01S aa 1-100
PS01S aa 101-200
PS01S aa 201-300
All other peptides

Full length PS01S

PS01S fragment used for immunization

Figure 1. Schematic of P501S with predicted transmembrane, cytoplasmic, and extracellular regions

MVQRAVAVVRLRRKK AQLLLVNLLETHLEVC¹LAAGT²VVPTLLLEVCVRRKPA³TMVLCIGIPVLQILVCYPI⁴LLQSA⁵
 DWWRGRVYRRRP⁶ETWALSLQILSLFIPRAGW⁷AGLCTDPRPPL⁸ELALLQVQLLD⁹PCDDVC¹⁰PTPL¹¹
 PALLSL¹²FRDPD¹³HC¹⁴RQ¹⁵AYSYVAFMSLGGCTGVTIPAI¹⁶DWDTSALAPVLC¹⁷QDQ¹⁸DE
 CLPGL¹⁹ETL²⁰PL²¹TCYAA²²TL²³LY²⁴AEFAALGP²⁵TEPA²⁶GL²⁷SL²⁸SP²⁹TH³⁰CT³¹PRARLAF³²RNLG³³ALL³⁴PR³⁵
 DDLCT³⁶RRP³⁷ET³⁸RR³⁹LPYAP⁴⁰LC⁴¹YWMAL⁴²MT⁴³ET⁴⁴Y⁴⁵TP⁴⁶YGRGL⁴⁷YQ⁴⁸GV⁴⁹PL⁵⁰ARP⁵¹GT⁵²LEAR⁵³HI⁵⁴YDE⁵⁵GV⁵⁶R⁵⁷
 MGS⁵⁸LQ⁵⁹LF⁶⁰QCA⁶¹SL⁶²YF⁶³SL⁶⁴YM⁶⁵DR⁶⁶LV⁶⁷QR⁶⁸ET⁶⁹RA⁷⁰V⁷¹YL⁷²AS⁷³YAAP⁷⁴V⁷⁵AA⁷⁶GL⁷⁷AT⁷⁸CL⁷⁹SH⁸⁰SV⁸¹AV⁸²VT⁸³A⁸⁴SAA⁸⁵
 LT⁸⁶GE⁸⁷FT⁸⁸ESAL⁸⁹QIL⁹⁰LY⁹¹TL⁹²AS⁹³LY⁹⁴HR⁹⁵EK⁹⁶QV⁹⁷EL⁹⁸PK⁹⁹YR¹⁰⁰GD¹⁰¹TG¹⁰²GA¹⁰³SE¹⁰⁴DS¹⁰⁵IA¹⁰⁶TS¹⁰⁷FI¹⁰⁸PK¹⁰⁹PK¹¹⁰GF¹¹¹PN¹¹²QI¹¹³VQ¹¹⁴AG¹¹⁵Q¹¹⁶SL¹¹⁷
 LPP¹¹⁸PPAL¹¹⁹CG¹²⁰AS¹²¹CD¹²²VS¹²³YR¹²⁴VY¹²⁵Q¹²⁶ET¹²⁷EAR¹²⁸V¹²⁹PP¹³⁰ERG¹³¹IEL¹³²DL¹³³ALL¹³⁴DS¹³⁵AP¹³⁶EL¹³⁷SG¹³⁸YAP¹³⁹SL¹⁴⁰MG¹⁴¹SV¹⁴²QI¹⁴³LS¹⁴⁴QS¹⁴⁵
 VTAY¹⁴⁶MY¹⁴⁷SA¹⁴⁸AG¹⁴⁹GL¹⁵⁰LY¹⁵¹AI¹⁵²YP¹⁵³AT¹⁵⁴QV¹⁵⁵VD¹⁵⁶K¹⁵⁷SL¹⁵⁸AK¹⁵⁹YS¹⁶⁰A

Underlined sequence: Predicted transmembrane domain; Bold sequence: Predicted extracellular domain;
 Italic sequence: Predicted intracellular domain. Sequence in bold/underlined: used to generate polyclonal rabbit serum

Localization of domains predicted using IMM-TOPI (C.R. Tusnady and L. Simon (1998) Principles
 Governing Amino Acid Composition of Integral Membrane Proteins: Applications to topology Prediction. J.Mol Biol. 283,
 489-506.

Genomic Map of (5) Corlxa Candidate Genes

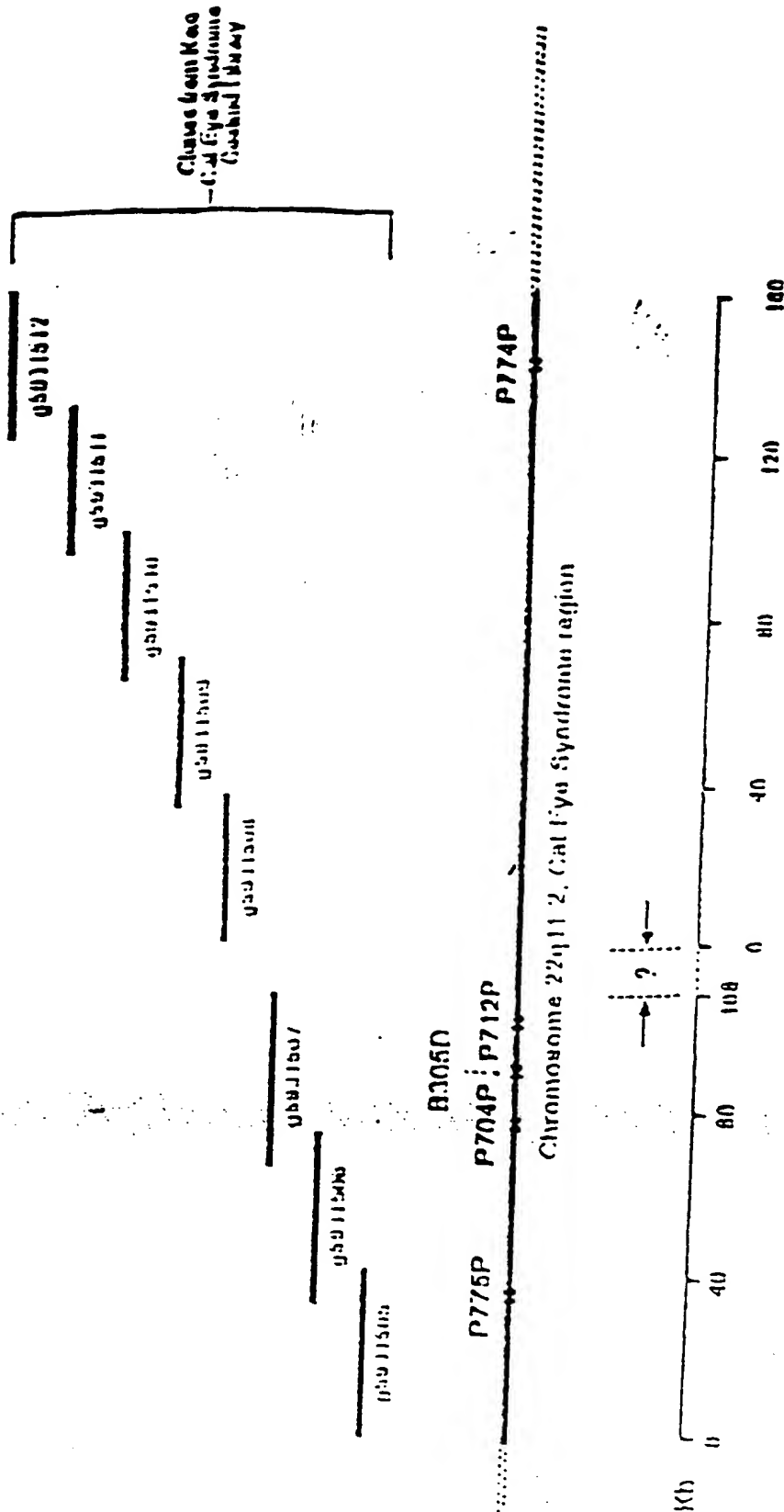
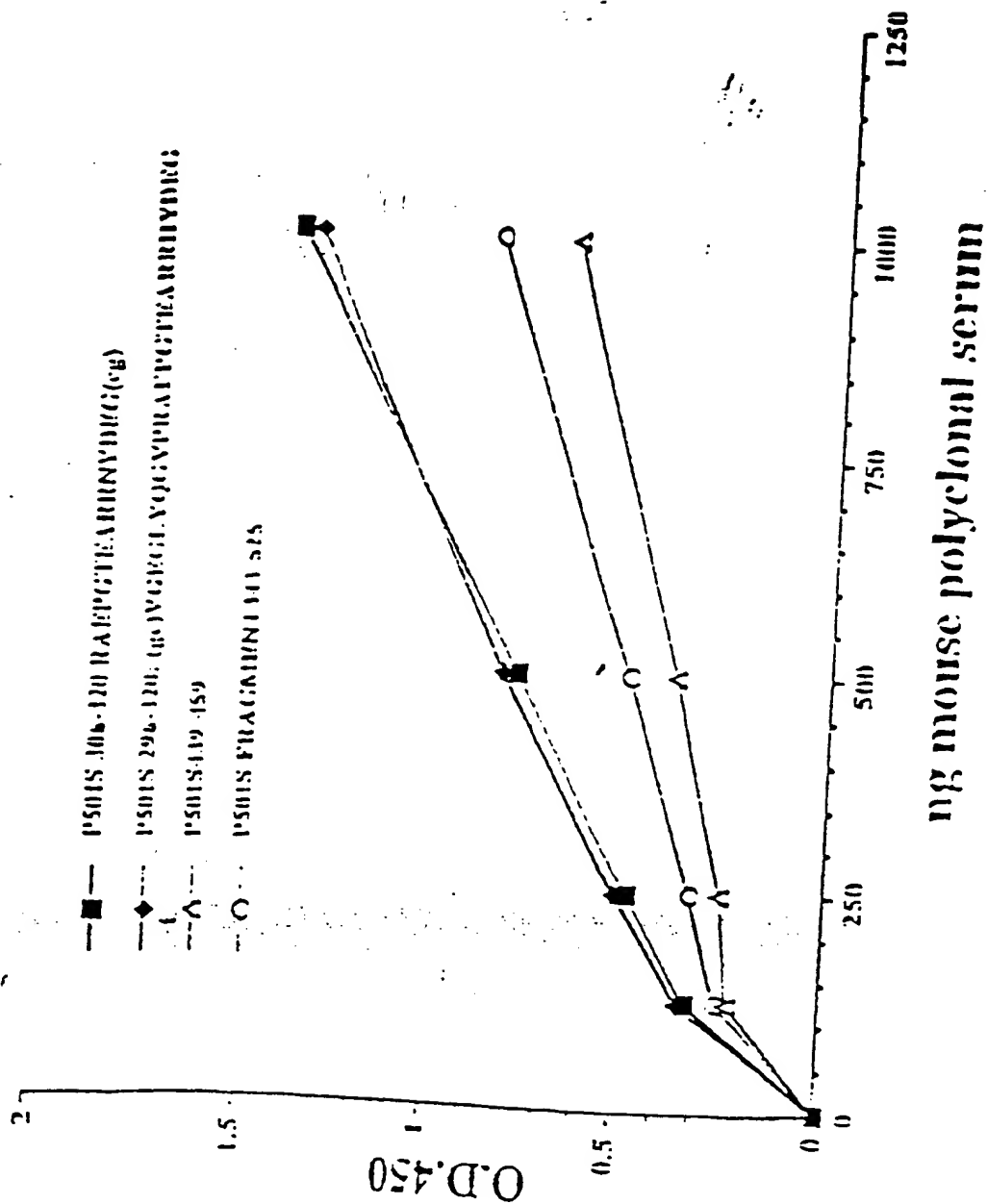


Fig. 10

FIGURE 4. Elisa assay of rabbit polyclonal antibody specificity



10 20 30 40 50 60 70
 GTCACCTTAGGAAAAGGTGTCTTTTCGGGCAGCGGGGCTCAGCATGAGGAACAGAAGGAATGACACTCTGG 70
 ACAGCACCCGGACCCCTGTACTCCAGCGCGTCTCGGAGCACAGACTTGTCTTACACTGAAAGCGACTTGGT 140
 GAAATTTTATTCAAGCAAATTTTAAGAAACGAGAATGTGTCTTCTTTACCAAAGATTCCAAGGCCACGGAG 210
 AATGTGTGCAAGTGTGGCTATGCCAGAGCCAGGCATGGAAGGCACCCAGATCAACCAAAGTGAGAAAT 280
 GGAAC TACAAGAAACACACCAAGGAATTTCTTACCGACGCTTTGGGGATATTCAGTTTGAGACACTGGG 350
 360 370 380 390 400 410 420
 GAAGAAAGGGAAGTATATACGTCTGTCTTGCACAGCGAGCGGAAATCCTTTACGAGCTGCTGACCCAG 420
 CACTGGCACTTGAAAACAACCAACCTGCTCATTTCTGTGACCGGGGGGCGCAAGAAGCTTCGCCCTGAAGC 490
 CGCGCATGCGCAAGATCTTCAAGCGGCTCATCTACATCGCGCAGTCCAAAGGTGCTTGGATTCTCAGGG 560
 AGGCACCCATTATGGCCTGACGAAGTACATCGGGGAGGTGGTGAGAGATAACACCATCAGCAGGAGTTCA 630
 GAGGAGAATATTGTGGCCATTGGCATAGCAGCTTGGGCGATGGTCTCCAAACGGGACACCCCTCATCAGGA 700
 710 720 730 740 750 760 770
 ATTGGGATGCTGAGGGCTATTTTTTAGCCCAAGTACCTTATGGATGACTTCACAAGGGATCCACTGTATAT 770
 CCTGGACAACACACACACATTTGGCTGCTGGTGGACATGGCTGTGATGGACATCCGACTGTGCAAGCA 840
 AAGCTCCGGAATCAGCTAGAGAAAGCATATCTGTGAGCGCACTTATCAAGATTCCAACTATGGTGGCAAGA 910
 TCCCATTTGTGTGTTTGGCCAAAGGAGGTGGAAAGAGAGCTTGAAGGCCATCAATAGCTCCATCAAAAA 980
 TAAAAATTCCTTGTTGGTGGTGGAAAGGCTCGGGCGGATGGCTGATGGATCGCTAGCCTGGTGGAGGTG 1050
 1060 1070 1080 1090 1100 1110 1120
 GAGGATGCCCCGACATCTTTTCCCGTCAAGGAGAAGGTGGTGGCTTTTACCCCGCAGGGTGTCCGGG 1120
 TGTCTGAGGAGGAGACTGAGATTTGGATCAAAATGGGTCAAAAGAAATTTCTGAAATGTTCTCACCTATTAAC 1190
 AGTTATTAAATGGAAAGATTTGGGGATGAAATTTGTGAGCAATGGCATCTCTACGGCTCTATACAAAGCC 1260
 TTTCAGCACCAGTGAGCAAGACAAAGGATAACTGGAAATGGGC-GITGAAGCTTCTGTGGAGTGGAAACAGC 1330
 GTGGAATTAGCCAAATGATGAGATTTTACCAATGACCGCGATGGGAGTCTGCTGACCTTCAAGAAATCAT 1400
 1410 1420 1430 1440 1450 1460 1470
 GTTTACGGCTCTCATAAAGGACAGACCAAGTTTGTCCGCTCTTTCTGGAGAATGGGTTGAACCTACGG 1470
 AAGTTTCTCACCCATGATGTCTCACTGAAGCTCTTCTCAATCACTTCAGCAGGCTTGTGTACCGGAATC 1540
 TGCAGATCGCCAAAGAAATTCCTATAATGATGGCCTCTCTCAGCTTTGTGTGGAACCTGGTTGCGAATCTCC 1610
 AAGAGGCTTCGGGAAGGAAGACAGAAATGGCGGGGATGAGATGGACATAGAACTCCAGGACGTGTCTCT 1680
 ATTACTCGGCACCCCTGCAAGCTCTCTCTCATCTGGGCCATCTTTCAGAAAGAAAGGAATCTTCCAAAG 1750
 1760 1770 1780 1790 1800 1810 1820
 TCATTTGGGAGCAGACACGGGGGTGCACTCTGGCAGCCCTGGGAGCCAGCAAGCTTGTGAAGACTCTGGC 1820
 CAAGGTGAAGAAACACATCAATGCTGTGTGGGAGTTCGAGGAGCTGGCTAATGAGTACGAGACCCGGGCT 1890
 GTTGAGCTGTCACTGAGTGTACAGCAGCGATGAAAGACTTGGCAGAACAGTGTGTGGTCTATTCTGTG 1960
 AAGCTTGGGGTGGAAAGCACTGTCTGGAGCTGGGGTGGAGGCTACAGACCAATTTCAACCGGCCAGCC 2030
 TGGGGTCCAGAAATTTCTTTCTAAGCAATGGATGGAGAGATTTCCCGAGACACCAAGAACTGGAAAGATT 2100

Fig. 12A (i)

002250-58250960

2110	2120	2130	2140	2150	2160	2170
TCCTGTGTCTGTTTATTATACCCCTTGGTGGGCTGTGGCTTTGTATCATTAGGAAGAAACCTGTCGACA						2170
AGCACAAGAAGCTGCTTTGGTACTATGTGGGCTTCTTCACCTCCCCCTTCGTGGTCTTCTCCTGGAATGT						2240
GGTCTTCTACATCGCCCTTCTCTCTGCTGTTTGGCTACGTGGTGGTCAATGGATTTCCATTGGGTGCCACAC						2310
CCCCCGGAGCTGCTCCTCTACTCCCTGGTCTTTGTCTCTTCTGTGATGAAGTCAGACAGTGGTACGTAA						2380
ATGGGGTGAATTATTTTACTGACCTGTGGAAATGTGATGGACACGCTGGGGCTTTTTTACTTTCATAGCAGG						2450
2460	2470	2480	2490	2500	2510	2520
AATTGTATTTTGGCTCCACTCTTCTAATAAAAGCTCTTGTATTCTGGACGAGTCATTTTCTGTCTGGAC						2520
TACATTATTTTCACTCTAAGATTGATCCACAATTTTACTGTAAGCAGAAACCTAGGACCCAAGATTATAA						2590
TGCTGCAGAGGAAGCTGATCGATGTGTCTCTCTCTCTTTCCTGTCTCTTTGCGGTGTGGATGGTGGCCTTTGG						2660
CGTGGCCAGGCAAGGGATCCTTAGGCAGAAAGAGCAGGCTGGAGGTGGATATTCGGTTCGGTCACTAC						2730
GAGCCCTACTTGGCCATGTTTGGGCCAGGTGCCAGTGACGTGGATGGTACCACGTATGACTTTGCCCACT						2800
2810	2820	2830	2840	2850	2860	2870
GCACCTTCACTGGGAATGAGTCCAAAGCCACTGTGTGTGGAGCTGGATGAGCACAACCTGCCCGGTTCCC						2870
CGAGTGGATCACCATCCCCCTGGTGTGCACTCTACATGTTATCCACCAACATCCTGCTGGTCAACCTGCTG						2940
GTCGCCATGTTTGGCTACACGGTGGGCACCTTCCAGGAGAACAAATGACCAAGGTCTGGAAGTTCCAGAGGT						3010
ACTTCTTGGTGCAGGAGTACTGGCAGCCGGCTCAATATCCCTTCCCCTTCATCGTCTTGGCTTACTTCTA						3080
CATGGTGGTGAAGAAGTCTTCAAGTGTGTGTGAAGGAGAAACATGGAATCTTCTGTCTGTGTCTTCT						3150
3160	3170	3180	3190	3200	3210	3220
AAAAATGAAAGCAATGAGACTCTGGCATGGGAGGGTGTGATGAAGGAAAACTACCTTGTCAAGATCAACA						3220
CAAAAGCCAAAGCAACCTTCAGAGGAAATGAGGCACTGATTTAGACAACTGGATACAAAGCTTAATGATCT						3290
CAAGGGTCTTCTGAAAGAGATTGCTAATAAAATCAAAATAAACCTGTATGAACCTCTAATGGAGAAAAATC						3360
TAAATTATAGCAAGATCATATTAAAGGAATGCTGATGAACATTTTGGTATCGACTACTAAATGAGAGATT						3430
TCAGACCCCTGGGTACATGGTGGATGATTTTAAATCACTCTAGTGTGCTGAGACCTTGAGAAATAAGTGT						3500
3510	3520	3530	3540	3550	3560	3570
GTGATTGCTTTCATACCTTGAAGACGGATATAAAGGAAGAAATTTTCTTTTATGTGTTCTCCAGAAATGGT						3570
GCCTGTTTCTCTCTGTGTCTCAATGGCTGGGACTGGAGGTTGATAGTTTAAAGTGTGTTCTTACCGCCTTC						3640
TTTTTCTTTTAACTCTTATTTTGTATGAACACAATATAGGAGAACATCTATCTATGAATAAGAACCTGG						3710
TCATGCTTACTCCTGTATTGTATTGTGTTCAATTCGAATGATTCTCTACTTTTCCCTTTTGTATT						3780
ATGTGACTAATTAGTTGGCATAATGTTAAAGTCTCTCAATTAGGCCAGATTCATAAAACATGCTGCAGC						3850
3860	3870	3880	3890	3900	3910	3920
AAGAGGACCCCGCTCTATTTCAGGAAAAAGTGTATTCATTTCTCAGGATGCTTCTTACCTGTACAGGAGGT						3920
GACAAGGCAGTCTCTTGGCTCTCTGGACTCATCAGGCTCTATTGAAGGAAACACCCCAATCTTAATAA						3990
TGTGAAGAAGTCCCAAAAATGCAACCTTGAAGGCACTACTGACTTTGTTCTTATTGGAATCTCCTCTTA						4060
TTTATTATTTTCCATTAAAAAAATAGCTGGCTATTATAGAAAAATTTAGACCATACAGAGATGTAGAAA						4130
GAACATAAAATGTCCCAATTACCTTAAGGTAATCACTGCTAACAATTTCTGGATGGTTTTCAAGTCTAT						4200
4210	4220	4230	4240	4250	4260	4270
TTTTTTCTATGATGTCTCAATTTCTCTTCAAAAATTTACAGAAATGTTATCATACATACATATACTTT						4270
TTATGTAAGCTTTTTCACCTTAGTATTATATCAAAATATGTTTATTATATTCATAGCCTTCTTAAACATT						4340
ATATCAATAAATGGCAATAAGGCAACCTCTAGGCAATACCAATAATTTTGGTCAATGAAGGCTATCTCCAG						4410
TTGATCATTTGGGATGAGCACTTTGTGCAATGAATCTTATGGTGTATTTGGGAAAAATTTCCAGGGTTAG						4480
ATCCCAATAAATATCTATTATTATTAATAATTAATAATTCGATTTATTATTAAGCAATTTATAGGCT						4550

002250-66250560

4560	4570	4580	4590	4600	4610	4620
TTTTCATAAATGTATAGCAAA TAGGAATTATTAACCTTGAGCATAAGATATGAGATACATGAACCTGAACT						4620
ATTAATAATAAATTATTATATTTAACCCTAGTTTAAGAAGAAGTCAATATGCTTATTTAAATATTATGGAT						4690
GGTGGGCAGATCACTTGAGGTCAGGAGTTCGAGACAGCCTGGCCAACATGGCAAAACCACATCTCTACT						4760
AAAAATAAAAAAATAGCTGGGTGTGGTGGTGCCTCTGTAAATCCAGCTACTCAGAAGGCTGAGGTAC						4830
AAGAATTGCTGGAACCTGGGAGGCGGAGGTTGCAGTGAACCAAGATTGCACCACTGCACTCCAGCCGGGG						4900
4910	4920	4930	4940	4950	4960	4970
TGACAGAGTGAGACTCCGACTGAAAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATTATGG						4970
ATGGTGAAGGGAATGGTATAGAATTGGAGAGATTATCTTACTGAACACCTGTAGTCCCAGCTTTCTCTGG						5040
AAGTGGTGGTATTTGAGCAGGATGTGCACAAGGCAATTGAAATGCCCATAAATTAGTTTTCTCAGCTTTGAA						5110
TACACTATAAACTCAGTGGCTGAAGGAGGAAATTTTAGAAGGAAGCTACTAAAAGATCTAATTTGAAAAA						5180
CTACAAAAGCATTAACTAAAAAAGTTTATTTTCTTTTGTCTGGGCAGTAGTGAAAAATAACTACTCACAA						5250
5260	5270	5280	5290	5300	5310	5320
CATTCACTATGTTTGCAAGGAATTAACACAAATAAAGATGCCTTTTTACTTAAACGCCAAGACAGAAAA						5320
CTTGCCCAATACTGAGAAGCAACTTGCATTAGAGAGGGAACTGTAAATGTTTTCAACCCAGTTCATCTG						5390
GTGGATGTTTTTGCAAGTTACTCTGAGAATTTTGCCTATGAAAAATCATTATTTTGTAGTTGACAA						5460
TAATGTATTGAACATACTTCTAATCAAGGTGCTATGTCCTGTGTATGGTACTAAATGTGTCTGTGTA						5530
CTTTTGCACAACCTGAGAACTCTGCGGCTTGGTTAATGAGTGTGTTTCATGAAATAAATAAATGGAGGAATT						5600
5610	5620	5630	5640	5650	5660	5670
GTCAAA						5662

Fig. 12A(3)

10 20 30 40 50 60 70
 MRNRROTLOSTRILYSSASRSTOLSYSESOLVNF!QANFKKRECVFFTKDSKATENVCKCGYAQSQHME 70
 GTQINQSEKWNYYKXKHTKEFPTOAFGOIQFETLGKXGKYIRLSCOTDAEILYELLTQHWHLKTPNLVISVT 140
 GGAKNFALKPRMRKIFSRLLIYAQSKGAWILTGGTHYGLTKYIGEVRONTISRSSEENIYAGIAAWGM 210
 VSNROTLIRNCOAEGYFLACYLMOOFTROPLYLONNHTHLLLVDNGCHGHPTVEAKLRNCKLEKHISERT 280
 IQDSNYGGKIPIVCFAQGGGKETLKAINTS(KNK:PCVVVEGSGRIADVIASLVEVEDAPTSSAVKEKLV 350
 360 370 380 390 400 410 420
 RFLPRTVSRLLSEETESWIKWLKEILECSHLLTVIKMEZAGDEIVSNAISYALYKAFSTSEQCKONWNGQ 420
 LKLLLEWNCLOLANOEIFTNORRWESADLOE/MFTALIKORPKFVRLFLENGLNLRKFLTHOVLTELFN 490
 HFSTLVYRNLGIAKNSYNOCALLTFVWKLVANFRRGFRKEDRNGRDEMIELHCVSPITRHPLQALF[WAI 560
 LONKKELSKVINECTRGCCTLAALGASKLLKTLAKYKNOINAAAGESSELANEYETRAVELFTECYSSOEDL 630
 AEQLLVYSCEAWGGSNCLELAVEATDQHFTAQPGVONFLSKQWYGEISROTKNWK!ILCLFIIPLVGCGF 700
 710 720 730 740 750 760 770
 VSRKXKRVCKHKKLLWYYVAFFTSPFVVFBNVVFYIAFLLLFAYVLLMGFHSVPHPPELVLYSLVFVLF 770
 CDEYRQWYVNGVNYFTDLWNVMTLGLFYFIAGIVFRHSSNKSSLYSGRYFCLOYE!IFTLRLIHIFTV 840
 SRNLGPKIIMLQRMILQVFFFLFLFAYWVAFQVARGGILRONEQRWRWIFRSVIYEPYLAFFGQVPSOV 910
 DGTTYDFAHCTFTGNEKFLCVELDEHNLPRFPENITPLVCIYMLSTNILLVNLVAMFGYTVGTVCEN 980
 NDCVWKFGRYFLVGEYCSRLNIPFPFIVFAYFYMVYKCKKCKCKEKNMESSVCCFKNEDNETLAWEGVM 1050
 1060 1070 1080 1090 1100 1110 1120
 KENYLVKINTKANDTSEEMRRFRQLODKLNCKGLKEIANKIK. 1096

Fig. 12B